RNAV GNSS Approach Dash 8

Flight EVRA EYVI

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ATC ROUTE: N0315F190 ERIV5G ERIVA N994 MURUN MURU2A
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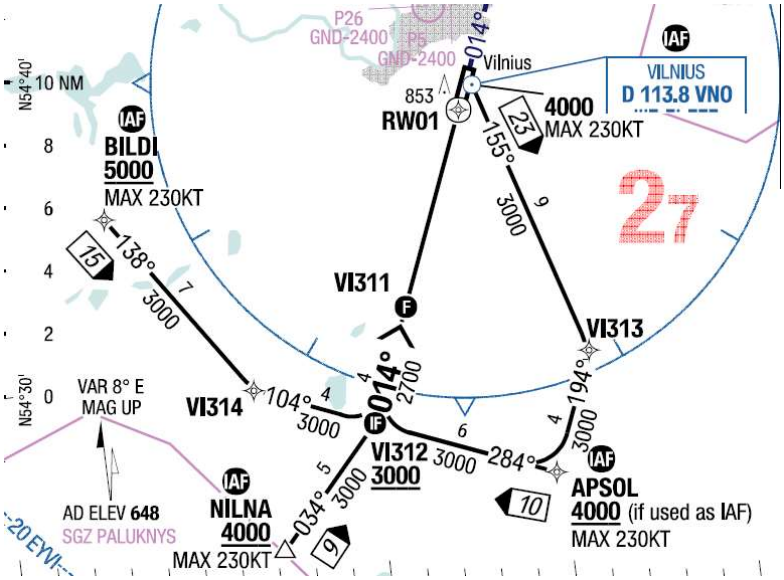
This is a short flight, after reaching Cruise Level let's start preparing the approach.

1. Preparation T/D (is known for sure)

Approach Briefing (in relation to the RNAV approach, i.e. not everything that is otherwise considered or briefed)

2. Review of the entered approach and the waypoints and restrictions



3. Check required RNP on the approach charts, if specified. The Dash normally sets out of the navigation database for the Approach Phase 0.50 as RNP, the RNAV GNSS required 0.30. This value must therefore be set manually on the NAV page 1 / 4 before we activate the approach or it is activated automatically (to be recognized or controlled via the NAV 1 / 4).
4. Set DA / MDA 1070
5. Set Approach Speeds, Flap setting
6. 2 Min before T/D set the new altitude and arm VNAV (displays on the PFD)

There are now several options. We can look at 3 of them, some of which are only possible in the simulator, since they are really rather unrealistic:

* Sinking from T / D to DA / MDA on the programmed flight path

* Sinking step by step on the programmed flight path

* Approach with previous ATC flight guidance (vectoring)

Sinking from T / D to DA / MDA on the programmed flight path

set as new alt before T/D the altitude for the Final Approach Fix **(F)** (2700 ft) and ALT SEL

the Dash 8 sinks through to the **F**, taking into account all height restrictions, so will adjust the VS accordingly and, if necessary, briefly level it out. VNAV PATH is the active vertical mode that you should also keep an eye on, and of course the speed.

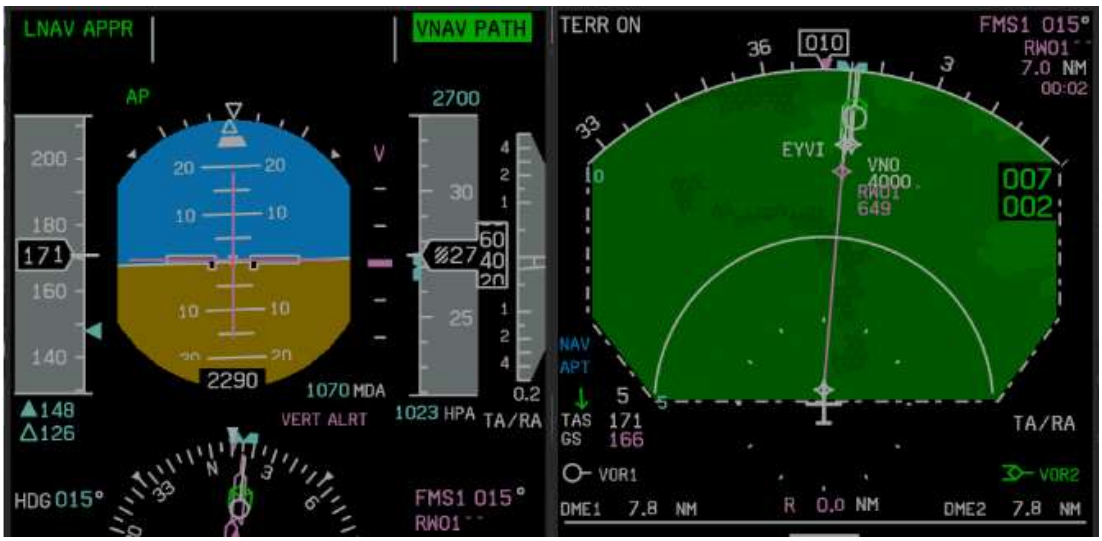
50 NM ARM APPR appears on the NAV Page 1 / 4. Confirm the sensors required for the selected approach are checked and an error message is issued if certain sensors are not available (real at least)

check and set the required RNP (0.30) in the Terminal Phase, before activate the approach (manually or automaticly)

before reaching the **F**, approach will activated automatically (see NAV Page 1 / 4 and PFD), if not previously activated manually. Is VNAV PATH active at this time, the VNAV APPR Mode engaged automatically but VNAV may be switched off in order to force a reactivation by means of the VNAV button on the MCP (make sure that you want to decrease further in the final approach). A new, lower height entry for the final approach is not necessary.

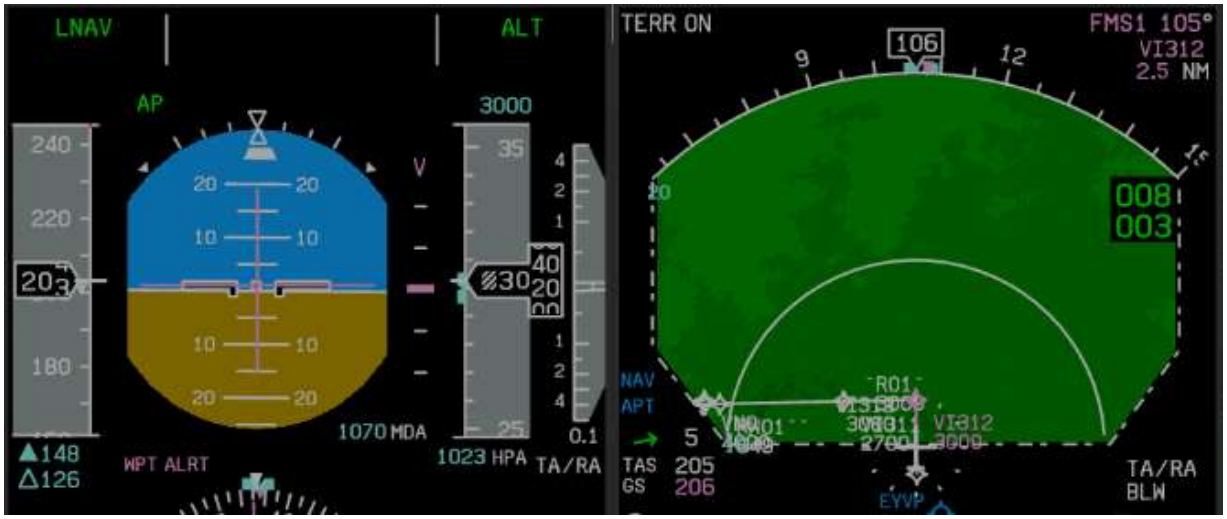

LNAV APPR
VNAV PATH
ALT SEL
AP
2700
2400
1070 MDA
WPT ALRT
VERT ALRT
1023 HPA
TA/RA
HDG 015°
FMS1 014°
VI311
TERR ON
FMS1 014°
VI311
1.4 NM
EYVI
VNO
4000
RW01
649
007
002
NAV
APT
TAS 178
GS 173
VOR1
VOR2
DME1 8.7 NM
R 0.1 NM
DME2 8.7 NM


LNAV APPR
ALT
AP
2700
2300
1070 MDA
VERT ALRT
1023 HPA
TA/RA
HDG 015°
FMS1 015°
RW01
TERR ON
FMS1 015°
RW01
7.0 NM
00:02
EYVI
VNO
4000
RW01
649
007
002
NAV
APT
TAS 172
GS 167
VOR1
VOR2
DME1 7.9 NM
R 0.0 NM
DME2 7.9 NM


LNAV APPR
VNAV PATH
AP
2700
2290
1070 MDA
VERT ALRT
1023 HPA
TA/RA
HDG 015°
FMS1 015°
RW01
TERR ON
FMS1 015°
RW01
7.0 NM
00:02
EYVI
VNO
4000
RW01
649
007
002
NAV
APT
TAS 171
GS 166
VOR1
VOR2
DME1 7.8 NM
R 0.0 NM
DME2 7.8 NM

Sinking step by step on the programmed flight path

is initially the same as before, except that all heights are really set in the MCP as the respective flight section specifies. So it happens that the plane levels out at the preselected altitude and goes into ALT mode. VNAV remains armed in the background (can be seen on the displays in the PFD). To sink further, the new height must then be set again on the MCP and VNAV activated.



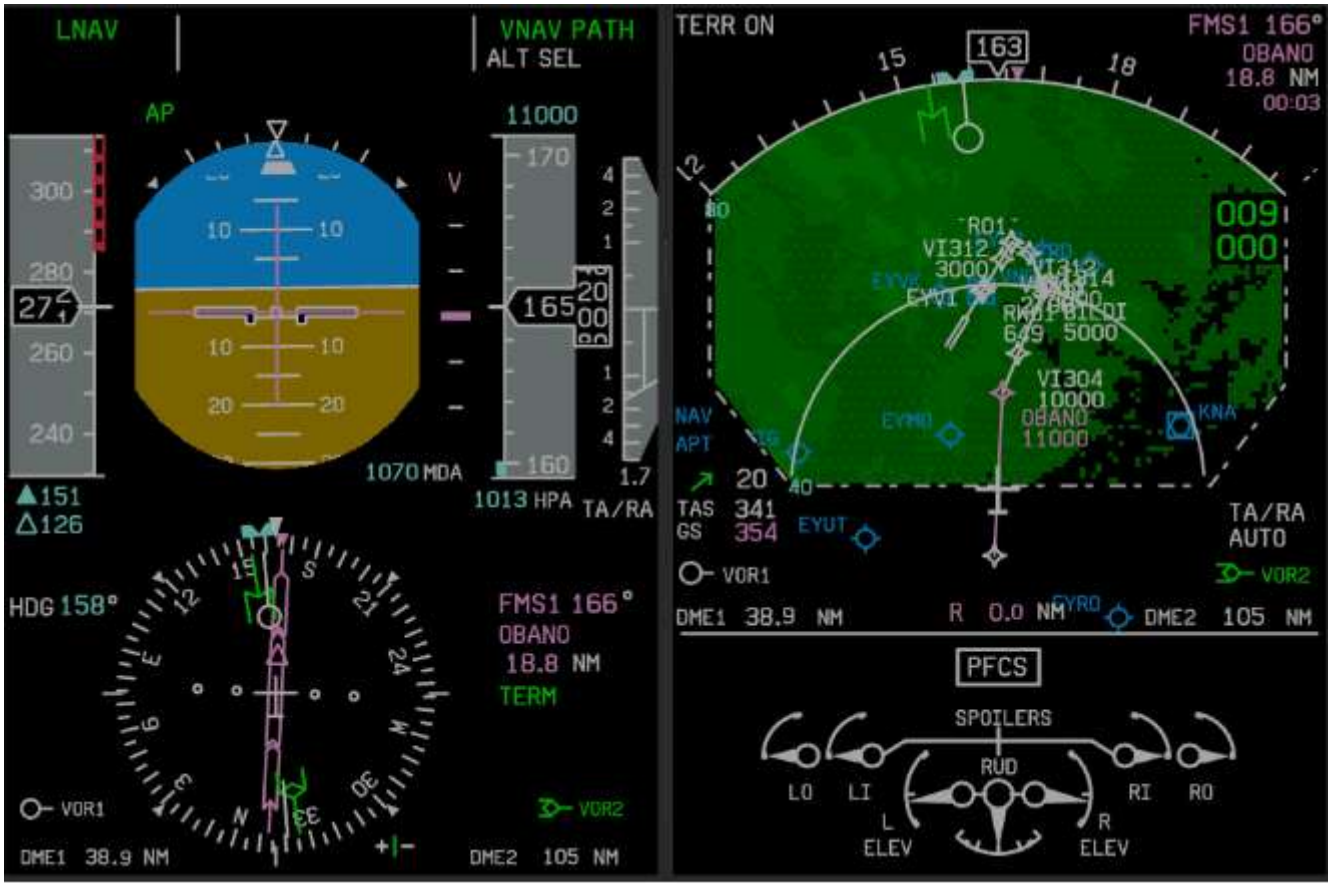
in this case VNAV is not disconnected again at the **F**, the airplane will sinking in the final approach

Approach with previous ATC flight guidance (vectoring)

First of all, what I am writing on this topic works, but I personally believe that things are really different. Unfortunately, the FMS implemented here does not allow this and deviates from the description in the manual. Perhaps a point that you should consider again for an update.

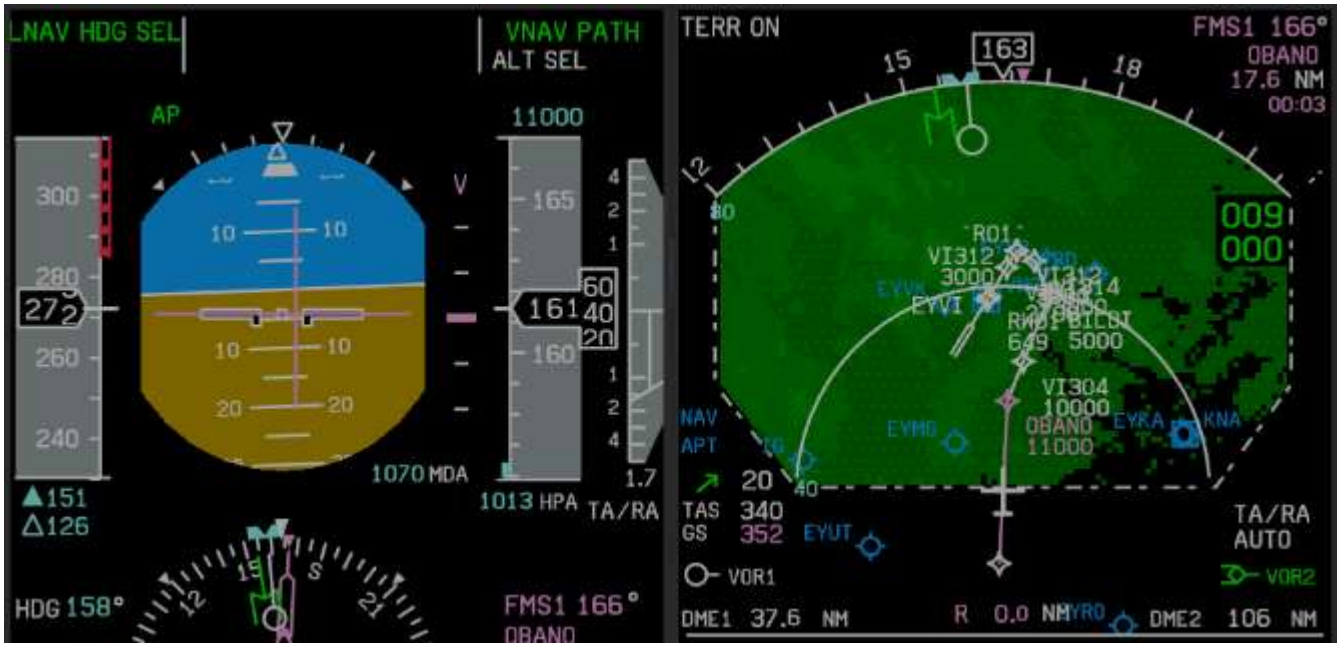
The first part, the whole preparation, is the same. In many cases, an ATC will control via vectors and height instructions, that should be the topic here. I am therefore already boarding the VNAV Descend towards OBANO.

Please do not forget to poor the approach on the NAV page as soon as possible and also to change the RNP if necessary. ARM APPR and later ACT APPR unfortunately do not work here as long as I am in LNAV HDG SEL mode, although it is offered to me on the NAV page. I think that's really different.



If ATC takes you off course in the middle of the descent, I take HDG CMD out of the FMS, so it's easy to return to the flight plan. To see here, the instruction could be "xyz turn right HDG 180 °".

In the FMS on the NAV Page select HDG (and here I mean, the real dash immediately shows the current HDG), enter 180 and Enter. The autopilot switches to LNAV HDG SEL mode

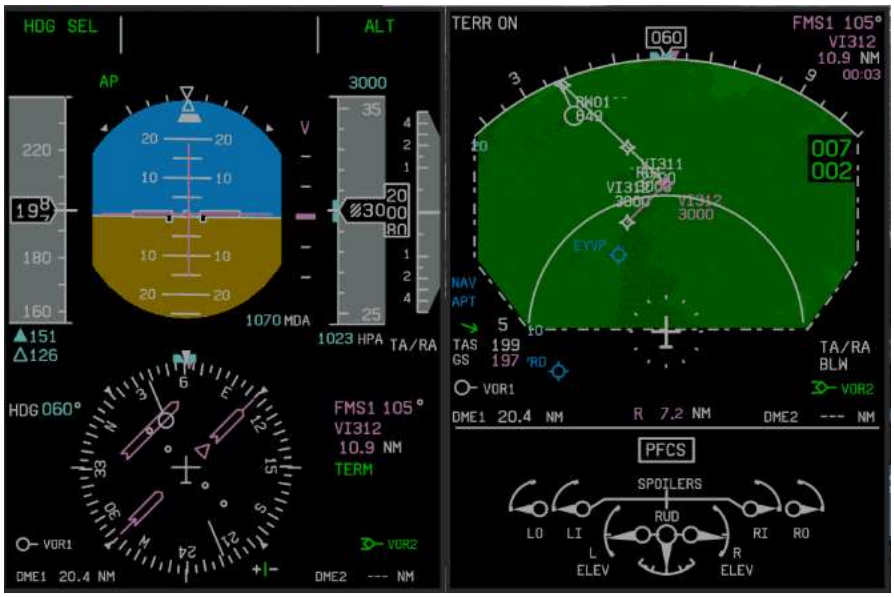


We are now flying on a vector course outside of our routing. Initially still in VNAV PATH mode, if the deviation becomes too large, it will change from VNAV PATH to PITCH HOLD, VNAV is disconnected. I generally fly something like this in vectoring using VS.

On the section, then please decrease automatically in steps and observing the minimum heights to 3000 ft at the end, at the latest on the Intercept HDG for the final approach.

At some point, ATC will send us on HDG to intercept the final approach course. "Yxz turn left, HDG 060, intercept RNAV Rwy 01

You can now enter the new HDG on the NAV page, but better, you now switch to HDG mode on the MCP, of course set the HDG bug accordingly beforehand.



ACT APPR is still offered to us on the NAV page, now in HDG SEL mode we can also activate the approach. In the LNAV HDG SEL mode, that would (still) not be possible. Unlike the first two variants, we have to activate the approach manually when vectoring!

If you now, and only if you are on the Intercept HDG, activate the approach on the NAV Page, all navigation points up to the CF (Capture Fix) are deleted by the PFD and the final approach course line will be extended to 50 NM.

Since we are already on the 3000 ft, which are stored as a restriction with VI312, the VNAV deviation is 0. In order to really intercept the approach (currently we would continue to fly at 060 ° until the fuel is exhausted) we tell the FMS which HDG we want to use to cut the extended final approach course line. If we activate NAV mode on the MCP without this, we switch to LNAV APPR mode, but the aircraft turns to its own intercept HDG, which differs from ATC. We shouldn't and shouldn't, so in spite of our current HDG SEL mode we enter our 060 on the NAV page under HDG, INTERCEPT appears. We activate this and INTERCEPT now appears on the top left of the NAV page.

If we now activate on the MCP NAV, the mode changes to LNAV HDG INT and we continue to fly as specified, to then intercept when approaching the extendet final approach course line, the mode changes to LNAV APPR.

Of course, we still have to sink to 2700 ft in time, the deviation will move upwards because we are not sinking under VNAV control. With clearance "Yxz cleared RNAV Rwy 01“ you now activate VNAV, the dash would rise again. In this case, really only activate VNAV on the Final Approach Fix. The altitude can be left at 2700 ft. If you would rather poor VNAV again, it is advisable to select the Final Approach Fix as the target on the VNAV page after reaching the 2700 ft. If this is activated as a TO waypoint, the deviation is in the middle and we can VNAV armen, if you were also approved for the final approach.

If the sinking from the cruise took place entirely without VNAV, you must of course activate VNAV before the final approach, i.e. first select the approach fix as the target on the VNAV page, then arm VNAV accordingly before the approach fix.

So, a lot of pictures, I hope I didn't put one wrong, and everything is reasonably understandable, otherwise just ask. Some actions seem unnecessary, but the Majestics Dash's FMS is no different.

It's really fun, I almost only fly RNAV approaches. Sometimes I flew several laps and sometimes forgot a little something, because I had just focused on something else during the flight phase, so sometimes only small pictures without the errors.